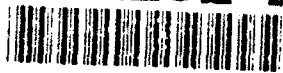


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An Analysis of "Brass Creep" in the Air Force

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AN ANALYSIS OF
"BRASS CREEP" IN THE AIR FORCE

LT COL NEVA J. LYNDE

ABSTRACT

Since the end of World War II, defense critics have censured the Department of Defense (DOD), from time to time, for the slow decline in the ratio of officers to enlisted personnel. Senator John Glenn (D, Ohio), a member of the Senate Armed Services Committee, dubbed the phenomena "brass creep." It is generally assumed that a low proportion of officers is good, indicating a healthy and effective force structure, and that a high proportion of officers is bad.

The purpose of this paper is to prove that the officer-enlisted ratio has limited usefulness, and if it is used to determine future manpower structure, it is likely to produce erroneous judgments about force composition. The paper explores the major causes of change in the ratio in the Air Force.

Using officer-enlisted ratios to determine an appropriate manpower mix appears to be quite arbitrary. The number and type of manpower is a complex process that clearly must be driven by the skill level needed to support wartime taskings. DOD must take a firm position with Congress to convince them that arbitrary officer-enlisted ratios are inappropriate to develop force structure.

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AN ANALYSIS OF "BRASS CREEP" IN THE AIR FORCE

Since the end of World War II, defense critics have censured the Department of Defense (DOD), from time to time, for the slow decline in the ratio of officers to enlisted personnel. Senator John Glenn (D, Ohio), a member of the Senate Armed Services Committee, dubbed the phenomena "brass creep." It is generally assumed that a low proportion of officers is good, indicating a healthy and effective force structure, and that a high proportion of officers is bad. However, the purpose of this paper is to prove that the officer-enlisted ratio has limited usefulness and, if it is used to determine future manpower structure, it is likely to produce erroneous judgments about force composition. DOD's evolving force structure is critical in light of the unprecedented reductions it faces in the next few years.

BACKGROUND

Critics of military leadership assert that brass creep has negatively affected the ability of the armed forces to effectively accomplish its mission. They allege that the officer corps has grown too large to effectively lead. James Coates charges that the American military is top-heavy with officers. He compares the 1:11.6 ratio of officer-to-enlisted in June 1945 to a ratio of 1:7 in 1985 (all Services). Thomas Lawson provided damning evidence of bloat in the officer corps in his military

procurement study, "Officer Inflation: Its Cost to the Taxpayer and Military Effectiveness."¹ Military reform advocate Edward Luttwak referred to DOD as "overofficered" and wrote

"...the military bureaucracies kept expanding, not merely by increasing the size of each command, headquarters, department, or bureau, but also by subdividing their functions to absorb the surplus officers in many new separate offices."²

Recently, this criticism about the size of the officer corps convinced Congress to legislate a reduction in officer endstrength. The FY87 National Defense Authorization Act (NDAA), required DOD to reduce officer endstrength 6 percent from the 1986 level, over a three year period. Congress's goal was to raise the officer-to-enlisted ratio in DOD from about 1:6 to 1:6.5 by the end of FY89. The 6 percent reduction in FYs 87-89 represented a cut of 18,500 positions. In actuality, the cut was effectively about 22,000 because programmed growth to staff new ships and aircraft had to be cancelled.³

More recently, the Congress, in the FY91 National Defense Authorization Act, stated that they

"...expect the military Services to maintain the same relationship between officers and enlisted strengths existing at the end of FY90 in making active duty endstrength reductions in the future."⁴

During the preparation of the FY92 President's Budget (PB), the Office of the Secretary of Defense (OSD) (Comptroller) decreed in Program Budget Decision (PBD) 531 that,

"While it is recognized that officer and enlisted endstrength requirements are determined by force structure considerations, the increase in the officer mix appears to be excessive, and in view of continued Congressional limitations on officer endstrength, the officer percentage of the force should be continued at the FY1992 level in FY1993 through FY1997."⁵

The following table shows, for comparison purposes, officer/-enlisted ratios from FY90 to FY95. FY92-FY95 figures reflect where the services expected to be before OSD imposed limitations.

TABLE 1

OFFICER/ENLISTED RATIOS

| | FY90 | FY91 | FY92 | FY93 | FY94 | FY95 |
|-----------|------|------|------|------|------|------|
| Army | 6.03 | 6.17 | 6.08 | 5.99 | 5.88 | 5.77 |
| Navy | 7.04 | 7.12 | 7.02 | 6.95 | 6.95 | 6.94 |
| Marines | 8.81 | 8.92 | 8.78 | 8.80 | 8.80 | 8.80 |
| Air Force | 4.35 | 4.35 | 4.28 | 4.19 | 4.10 | 4.06 |

Obviously, all the Services anticipated less favorable officer/-enlisted ratios until FY95. To comply with Congressional direction, the Services must reverse that trend. This paper will explore the Air Force numbers in more detail later.

HISTORICAL REVIEW OF OFFICER-TO-ENLISTED RATIOS

Growth in the officer corps can be examined from several different perspectives. This paper will address growth in general and by Service. It will also compare officer growth to the U.S. economy.

Growth in General

Historically, officer requirements are relatively static, while enlisted requirements are much more elastic. Reductions in officer ranks during periods of general retrenchment have been less dramatic than cutbacks in total military personnel.⁶ Officer inflation is natural in peacetime to maintain a cadre of leaders to command the sudden influx of recruits who would come into the service with the outbreak of war.

Many military functions, and usually ones that are officer-intensive, continue or expand despite changes in the size of the force. Examples of these include research and development (R&D), reserve component support, headquarters activities, and support to other nations. This will be particularly true in the future as DOD continues its R&D efforts but "shelves" the R&D rather than going into production. The portion of the weapons system life cycle that is enlisted-intensive, the operations and maintenance stage, may never be taken off the shelf.

Growth By Service

Comparisons between the officer-to-enlisted ratios of the Services are misleading because of the varying missions, functions and structure of the Services. The armed services have always differed significantly in their occupational structures, and despite advances in military technology, interservice differences are still important. The Army and Marine Corps have always

emphasized soldiers and marines over equipment and hence have been slower to feel the impact of technology. The Air Force and Navy have relied on major capital inputs--aircraft and ships--that are technologically-intensive and that have different manpower requirements.⁷ Forces with sophisticated equipment require more office managers, whereas maneuver battalions have a higher proportion of enlisted members.

The Army, Navy, and Marine Corps are structured around an enlisted combat force commanded and led in combat by their officer corps. However, the Air Force's fighting forces come almost exclusively from the officer corps. Major Richard Stokes states that, because of advanced weapons systems complexity in the Air Force,

"the officer corps is composed of a relatively small number of combatants (missile operations and rated officers) and a large support force of specialists to maintain those weapon systems, both in operational and developmental arenas."⁸

It is interesting to note that in World War II there were twice as many flying officers killed and missing in action as in any other component of the Army. The Army Air Corps lost 15,100 officers killed and missing. The infantry lost 6583; the cavalry 464; the field artillery 976; the coast artillery 138--a total of 8422.⁹

Growth Compared to the U.S. Economy

Over the past 15 years, the U.S. economy has shifted toward greater reliance on automated technologies and on technology-trained or college-educated personnel. If one compares the increase in the proportion of college graduates in the military to the most comparable segment of the civilian economy (civilian manufacturing sector), it is clear that the civilian segment proportion of college graduates actually rose somewhat faster. Although the proportion of college graduates in the military rose from 13 to 16 percent between 1975 and 1985, the proportion of college graduates in the civilian manufacturing sector grew from 12 to 16 percent.

Another method of comparing the military officer/enlisted ratio with the U.S. economy is to analyze similar workers in the U.S. economy as a whole. U.S. labor statistics classify civilian occupations into several categories. The categories do not correlate precisely with military occupations. However, for purposes of this paper, we will define three civilian occupations (managers, professionals and technical workers) as equivalent to military officer occupations.

The percentage of "officer occupations" in the civilian workforce has grown steadily from 17 percent in 1950 to 27.3 in 1984. When one calculates an "officer/enlisted ratio" for the U.S. economy, it fell from 1:5.88 in 1950 to 1:3.66 in 1984. There are two

notable trends revealed by these statistics. First, the U.S. economy has a higher percentage of officers than the Air Force. Next, the rate of officer growth for the U.S. economy was higher than the officer growth in the Air Force. Figure 1 graphically compares the Air Force and the U.S. economy "officer/enlisted ratios." Clearly, with only one exception in 1960, the Air Force is not as "overofficered" as the U.S. economy.

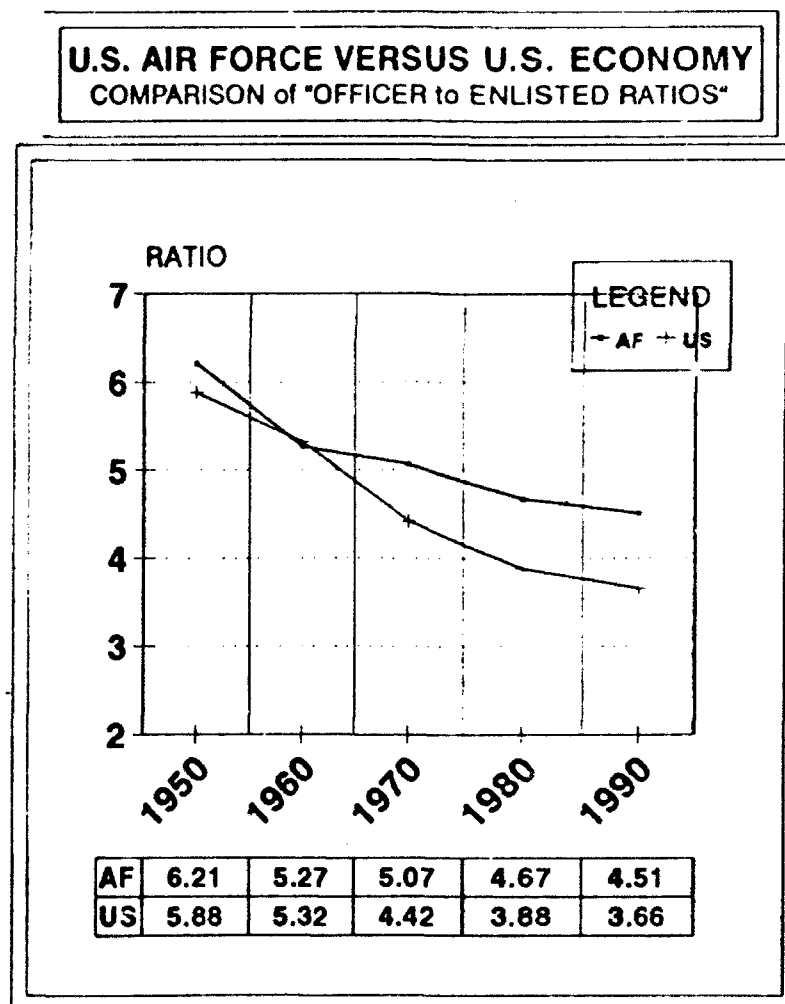


Figure 1

"BRASS CREEP" IN THE AIR FORCE

Let's explore the Air Force officer-enlisted ratio in more detail. Before we explore the reasons for "brass creep" in the Air Force, we need to understand the order of magnitude of the reductions we must make to comply with PBD 531. The number of officer authorizations which must be reduced range from 400 in FY92 to 4,000 in FY95.

There are several explanations for what seems to be brass creep in the Air Force. When the Air Force became a separate service in 1947, its officer-to-enlisted ratio exceeded 1:6. At the peak of the Viet Nam War in 1967, the ratio was 1 officer to 5.62 enlisted. In 1973, post-Viet Nam, the ratio was 1:5.01; in 1990, before the end of the Cold War, the ratio was 1:4.35. Several factors have affected the ratio over the past 45 years. This paper will address the major factors.

a. The nature of the Air Force's combat forces has influenced the ratio of officers to enlisted. The major factor in the higher proportion of officers in combat forces can be traced to increased numbers of aircraft and additional crew requirements for new aircraft. In fact, 80 percent of officer growth within DOD between 1980 and 1989 was in combat and combat-related forces.

Some fighter aircraft which require both a pilot and a systems officer have entered the Air Force in large numbers as replacements for single-seat aircraft, requiring additional officers. The increasing demand for pilots, in turn, induced a requirement for additional officers for undergraduate pilot training and the pilot pipeline.

One might argue that now that the number of cockpits is decreasing, we should reduce the numbers of pilots. And, in fact, we are; however, the technology of the newer aircraft requires fewer enlisted maintainers, and consequently, less support tail--also predominantly enlisted. The end result is a lower officer/-enlisted ratio. This brings us to the next major factor affecting brass creep--technology.

b. One of the dividends resulting from the technologically advanced weapon systems in today's inventory is lower manpower levels. However, to operate and maintain these systems at high productivity levels, greater numbers of degreed and specialized personnel are needed.¹⁰ Consequently, technology changes have caused a shift toward more officers and civilians and comparatively fewer but more senior enlisted members.

The evolution of electronics technology--from vacuum tubes to transistors to integrated circuits--has been accompanied by dramatic improvements in reliability and efficiency. The "trans-

parent complexity" permits major advances in equipment capabilities without placing greater demand on the operators.¹¹ With the advent of modular systems architecture, incorporating smaller, "remove and replace" subassemblies ("black boxes") accompanied by improved diagnostic capabilities, the maintenance burden--and hence the requirement for highly qualified technicians--has shifted from the operational unit rearward to the depot.¹² Logistics depots are usually highly civilianized; therefore, civilians are repairing systems that previously were maintained by enlisted people. With fewer enlisted maintainers needed on the flight line, the Air Force officer-to-enlisted ratio decreased.

Another example of the impact of technology is that as we improve the reliability and maintainability of our aircraft, we decrease the number of enlisted maintainers. The Air Force expects to save 3,900 enlisted positions as F-15 and F-16 improvements are implemented. However, because the number of F-15/F-16 cockpits is decreasing only slightly, the number of officers saved is minimal. Even though the Air Force is satisfying one goal to reduce the overall size of the force, it is aggravating the officer-to-enlisted ratio.

Another impact of technology is the experience factor. As the Air Force has kept pace with major technology developments, it has created a greater need for technical know-how.¹³ Previously,

the experience factor was secondary when the military service relied principally on physically robust but relatively unskilled people. Now the occupational structure of the military service demands more and more specialized experience and is dominated by technical positions. The armed services have realized that experienced people are more productive and are critical to the proper operation and maintenance of an increasingly complex military force. Therefore, as the need for unskilled manpower has declined and the demand for technically competent manpower has increased, the first-term/career enlisted mix has shifted.¹⁴

Martin Binkin's findings in his Military Technologies further support the Air Force's reduction in the proportion of first-term airmen. Binkin states,

"The costs of attracting, outfitting, training and paying recruits, which have increased substantially over the past decade, have altered trade-off between youth and experience and between retention and replacement."¹⁵

As our reliance has shifted from new recruits to more experienced mid-level NCOs, we have been able to reduce the number of enlisted people. This reliance on more experienced enlisted people has adversely affected the officer-enlisted ratio.

c. Closely related to the technology issue is the impact of the all-volunteer force (AVF). In the early 1970s, when the U.S. shifted to an AVF, the cost of first-term airmen rose dramatical-

ly as compared to the cost of senior enlisted and officer personnel. The basic pay of an E-1 rose 114 percent to attract volunteers, while the basic pay of an E-7 and an O-1 increased 18 percent. Of course, the most cost-effective mix of military personnel depends on relative costs as well as relative productivities. The increase in the cost of first-term airmen attributable to the AVF is one factor that may have encouraged the Air Force to substitute modern, automated weapons systems for unskilled personnel.

d. Contracting-out is a third major factor affecting officer/-enlisted ratios. Historically, jobs that are contracted out are very labor-intensive (grass cutting, base maintenance, etc). From 1979, when the Air Force began recording statistics on contracting-out, through August 1991, only 417 officer positions have been contracted-out compared to 11,786 enlisted positions. Or, for every one officer we contracted-out, we also lost 28.26 enlisted positions. While each contracting-out decision is made to follow Congress's intent to perform as much work outside the Air Force as possible, it simultaneously aggravates our officer-to-enlisted problem.

Currently the Air Force is studying 52 additional contracting-out opportunities. These studies involve base operating support which is primarily enlisted-intensive. An example is range maintenance where, if implemented, the workload of 4 officers and

179 enlisted members would be contracted out. If all 52 studies are implemented, 1659 enlisted positions will be contracted out while only 143 officers will be displaced, or a ratio of 1:11.6.

To comply with Congress's direction on contracting-out as much of the military workload as possible, the armed forces also have grown more dependent on contractor personnel. Some critics feel that the military may have become so accustomed to contractor support that it has failed to develop adequate in-house capabilities.¹⁶ In fact, in the General Accounting Office's (GAO) review of retaining essential civilians overseas during hostilities, they criticized DOD for filling essential positions with contracted civilians without developing an in-house backup.

GAO also cited the Worldwide Military Command and Control System (WWMCCS) which depends on contractor maintenance. Without the contractor, maintenance problems could degrade automated data processing operations almost immediately.

Another example of heavy reliance on contractors is the ultra-sophisticated B-1B. The Air Force has not developed an in-house maintenance capability because of the B-1B's complexity. No one other than the contractor knows how to repair them.¹⁷

e. Another major factor affecting the officer/enlisted ratio is medical care. Congress, DOD and the Air Force have made a conscious decision to dramatically improve military health care

for eligible beneficiaries. Over the past 10 years, more than 2700 additional medical officer positions have been funded. In a career field already highly officer-intensive, the medical officer-to-enlisted ratio has become less favorable. To compound the situation, the FY91 NDAA stated that DOD could not reduce the number of medical officers. In terms of the baseline Congress used to impose officer-to-enlisted ceilings (FY90 authorized manpower), 15,080 medical positions of the 100,045 total officer positions are "off limits" to cuts.

f. Historically, force structure reductions have also resulted in reducing far more enlisted positions than officers. Ideally, force structure reductions and base closures would be highly officer-intensive. Simply stated, to improve the officer-to-enlisted ratio, we need to release more than one officer for every 4.29 enlisted people released. Only two weapons systems in the latest major force structure changes, the B-52G and the MinuteMan II, came close to the ideal (Table 2).

TABLE 2
FORCE STRUCTURE REDUCTIONS

| Force Structure Reduction | # Primary Aircraft Reduced | Officer | Enlisted | Officer/Enlisted Ratio |
|---------------------------|----------------------------|---------|----------|------------------------|
| C-141 | 16 | 92 | 737 | 1: 8.0 |
| A-10 | 42 | 80 | 1216 | 1:15.2 |
| F-16 | 48 | 86 | 1405 | 1:16.3 |
| F-4G | 42 | 131 | 1440 | 1:11.0 |
| B-52G | 14 | 175 | 824 | 1: 4.8 |
| MinuteManII | 150 | 294 | 1259 | 1: 4.3 |

g. Base closures have also generated manpower savings that are highly labor-intensive. Air Force experience with the five bases approved for closure in Round I of the Base Realignment and Closure Commission is shown in Table 3. This is not a surprise since one primary reason to close installations is to reduce/consolidate the support tail.

TABLE 3
BASE CLOSURE (ROUND I) MANPOWER IMPACT

| Base | Off | Enl | O-E Ratio |
|---------|-----|------|-----------|
| Chanute | 127 | 690 | 1: 5.4 |
| George | 97 | 1129 | 1:11.6 |
| Mather | 106 | 945 | 1: 8.9 |
| Norton | 55 | 668 | 1:12.0 |
| Pease | 216 | 1586 | 1: 7.3 |

Again, while these manpower savings help the Air Force achieve overall endstrength, they drive the officer/enlisted ratio down. Round II results will be similar, ranging from a 1:5 ratio at Carswell AFB to a 1:13 ratio at Loring and Grissom AFBs.

The concern is that manpower savings generated by future programmatic changes/efficiencies will be primarily enlisted-intensive. Achieving/maintaining an officer-enlisted ratio of 1:4.29 will require future arbitrary officer cuts.

i. There are several Air Force specialties that historically have been filled by officers, i.e., pilots, navigators, doctors,

dentists, nurses, lawyers, chaplains, and most commander positions. They, of course, are included in the calculation of the officer-to-enlisted ratio. These 33,792 officers represent one-third of the FY90 officer authorizations. It is probably not realistic to exclude them completely from the officer-to-enlisted ratio calculation. However, if they were excluded, the officer/enlisted ratio would jump from 1:4.34 to 1:7.13.

MANPOWER POLICIES AND PROCEDURES

To help determine if the officer-to-enlisted ratio is a valid tool to determine manpower requirements, we should review current manpower policies and procedures in DOD and the Air Force.

DOD's policy is to maintain as small an active peacetime force as national security, military strategy, and overseas commitments allow. To determine the most appropriate force mix, DOD focuses on the need for forces to provide peacetime presence and to maintain a rapid crisis response capability.¹⁸ It is also DOD policy to employ civilian employees and contractors wherever possible to free military forces to perform military-specific functions.¹⁹

DODD 1400.5, Statement of Personnel Policy for Civilian Personnel in DOD, further states that civilian employees will be used in all positions which do not require military incumbents for reason of law, training, security, discipline, rotation, or combat

readiness or which require a military background for successful performance of the duties involved.

Let's look now at how the Air Force determines manpower requirements. Using a "build up" methodology, tasks are evaluated at the basic production level and aggregated up through the chain of command. The process is very structured and is based on documented standards and guides. The standards and guides contain estimates of the manpower necessary to perform specific tasks and derive workloads based on mission requirements. Once the gross manpower requirement has been determined, then the specialty and skill-level mix for each work center is determined. In other words, manpower is not an input to the strategic calculus--it is an output, or a residual.²⁰

OUR APPROACH IN THE PAST

Historically, the Air Force has satisfied directed military reductions primarily through force structure drawdowns and base closures. It is inherently clear in the above paragraphs that these measures reduce far more enlisted than officer authorizations.

In the past, when faced specifically with officer reductions, the Air Force has civilianized officer positions to reduce officer endstrength. We have also converted officer authorizations to

enlisted. We must consider some important factors before we continue down the slippery slope of officer reductions.

First, there are legal grade structure limitations for senior enlisted personnel that affect the potential for converting officer authorizations to enlisted. The number of E-9s and E-8s cannot exceed one and two percent of the enlisted force, respectively. Obviously as we reduce the enlisted force overall, the numbers of E-9s and E-8s allowed by law will decrease. Converting officer positions to enlisted will simply pull even more senior NCOs away from their superintendent roles to perform jobs previously done by officers.

Second, there are several pros and cons of military versus civilian authorizations. Rather than restating all the arguments here (such as unsatisfactory overseas rotation index, military career progression, and the problem with recruiting civilians at less than desirable locations, etc.), let's look at two important factors.

One major factor to consider is the possible impact on combat capability of placing civilians in mission essential positions. As Hauser points out in his "Military Manpower Options," there is probably too much reliance on civilian employees in the armed services already, given the likelihood that future conflict will begin suddenly. There is also concern about the mobility and

reliability of civilian "tech reps" who maintain high-technology equipment.²¹

The current restriction on hiring civilian employees is another consideration in converting officer positions to civilians. To keep operation and maintenance (O&M) costs within budget and to avoid a civilian reduction-in-force (RIF), DOD imposed a civilian hiring freeze on the Services.

Current Air Force policy is that only two of five vacant positions may be filled from outside the DOD. Some MAJCOMs have limited their subordinate units to filling only one of five vacancies. Clearly restrictions such as these change over the years. However, with the forecasted negative real growth in the O&M budgets in the foreseeable future, it is unlikely that managers will have enough dollars to fill every vacant civilian position. The bottomline is that an officer to civilian conversion would help the officer-to-enlisted ratio, but it would only add to the vacant civilian positions.

For these reasons, the measures we used in the past will not serve us well now. If the Air Force must reduce more officer authorizations, it must resort to new, previously untried solutions to help reduce the officer-enlisted ratio. Examples include concentrating on officer-intensive organizations and functions, organizations outside the Air Force (such as DOD

agencies), career fields that could be converted fully or partially to enlisted manning, and the follow-on programmatic tails such as Reserve Officer Training Corps (ROTC) accession adjustments. Each of these, potentially a political "hot potato," has drawbacks that have prevented the Air Force from implementing them during previous manpower reductions.

As discussed above, the Air Force could convert more officer positions to enlisted or civilian; however, we very quickly are exhausting all options. There are several officer career fields that, in the past, have been "sacred cows" and off-limits to cuts or conversion to enlisted or civilian positions. Squadron adjutants, ROTC positions, and medical are just a few career fields that could be reevaluated. Reductions in these areas would not come easy--they each have a high political price to pay.

Two other options to reduce officer levels that are even more distasteful are involuntary separations and additional involuntary retirements. We need to avoid these measures at all costs. There is already too much uncertainty and job insecurity.

Other characteristics of the officer population warrant mentioning. There is a lag factor in officer accessions. While training new enlistees takes only 6 weeks, officer training ranges from 12 weeks to 4 years.

Also, there certainly would be some large financial implications if we are forced to involuntarily separate officers who are not retirement-eligible. Severance pay of up to \$50K per member could very quickly become a large, unprogrammed "bill to pay."

Another intangible aspect of further officer reductions is the impact on the remaining force. Officers forced out because of an arbitrary law would clearly create dissatisfied leaders and "a fear of firing," adversely affecting unit cohesion. As R.B. Byers stated, "Security plays an important role in motivating individuals to choose the military life."²²

CONCLUSIONS AND SUMMARY

In 1949, General Omar Bradley stated, when testifying before the Committee on Armed Services,

"The ratio of officers to enlisted men is not the result of a mathematical formula. Rather it is a variable fixed by the missions assigned to the Army."²³

The U.S. military situation today is very similar to 1949 when the armed forces were going through the last major build down. It is interesting to note that in 1949 the nation also faced a defense budget that ran 70 percent of the federal budget and a serious budget deficit.

Once again, we need to recall the experience of our Canadian neighbors. When they unified their armed forces they realized that it was the responsibility of the officer corps to guide the service through the period of unprecedented change. R.B. Byers also concluded about the Canadian unification, that

"With levels of education in the community at large rising steadily, we must ensure that levels prevailing in the officer corps are comparable to those of the managerial community. Officers must be able to work closely with numerous specialists and experts from other government departments and agencies."²⁴

Using officer-enlisted ratios to determine an appropriate manpower mix appears to be quite arbitrary. The Congress applied somewhat capricious reductions to DOD in FYs 87-89 without considering the major factors that changed the officer-enlisted ratios. The number and type of manpower is a complex process that clearly must be driven by the skill level needed to support wartime taskings.

Military establishments are measured in the international arena by aggregate symbols (percentage of gross national product, number of wings, ships, and total number of uniformed personnel). Even more important are the signals that accompany changes in the size of the uniformed forces. Even though the Cold War is over, we must be careful not to send a false signal to foreign leaders that a large reduction in the number of military personnel is a decrease in our strength or our willingness to fulfill our foreign commitments.²⁵

DOD must take a firm position with the Congress to convince them that arbitrary officer-enlisted ratios are inappropriate to develop force structure. The organizational patterns and leadership styles established in the 1990s will affect the future and the success of the forces well into the next century. Secretary of Defense Dick Cheney summarized our situation well when he said,

"As we reshape our military and civilian forces over the coming years, it will be our paramount responsibility to preserve the quality and vitality of this critical defense resource."²⁶

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